



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of Keith, J.)

Serial No. 07/542,149 )

Examiner: C. Low

Filed: June 22, 1990 )

Art Unit: 184

For: PERTUSSIS TOXIN GENE: CLONING AND EXPRESSION

**INFORMATION DISCLOSURE STATEMENT**

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Sir:

In compliance with 37 CFR 1.97 and 1.98, attached hereto is a copy of Form PTO-1449 and copies of the documents listed thereon. These documents contain information which the Examiner may consider pertinent to the present application. The following is a concise explanation of the relevance of each listed item:

Burnette et al, Science October 1988 disclose various site-specific mutants of the S1 subunit of pertussis toxin having reduced enzyme activity and a conserved protective epitope, according to the instant invention. This article was published after the 03/25/86 priority date of grandparent application 06/843,727, and less than one year prior to the filing date of parent application 07/311,612, which is a CIP of 06/843,727. The authorship of this reference is different from the inventive entity, and it may constitute prior art against certain of the instant claims.

European Patent Application 0 306 318 to Amgen Inc. discloses recombinant DNA clones encoding the S1 subunit of *Bordetella* exotoxin. Genetically engineered embodiments of the invention result in polypeptides which retain immunogenicity, yet are free of enzymatic activity associated with toxin reactogenicity. This reference was published after the filing date of priority application 07/311,612, and does not constitute prior art against the instant application.

Respectfully submitted;

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